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ABSTRACT

This bibliography on nutritional disorders and child development is directed towards early childhood professionals outside the field of nutrition. The main topic covered pertains to malnutrition and undernutrition as it relates to mental/intellectual/cognitive development of children from the fetal stage through the early childhood years. Included are more than 300 references for articles on world health problems, nutritional problems in the U.S., learning deficits resulting from malnutrition, ecological studies, vitamin and mineral deficiencies, food additives, the correlation between socio-economic status and nutritional problems, etc. (SB)

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NUTRITIONAL DISORDERS AND THE DEVELOPMENT OF YOUNG CHILDREN: A BIBLIOGRAPHY

by

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NUTRITIONAL DISORDERS AND THE DEVELOPMENT OF YOUNG CHILDREN: A BIBLIOGRAPHY

This bibliography was developed through the use of several sources including a computer file, indexes, abstracts, bibliographies and by searching recent journals which frequently publish information on nutritional disorders. The following sources were used in part or total for identifying the relevant literature from 1970 to mid-1976.

Index Medicus
Nutrition Abstracts and Reviews
Current Index to Journals in Education (CIJE)
Psychological Abstracts
Child Development Abstracts and Bibliography
Bibliography of Developmental Medicine and Child Neurology
Educational Resources Information Center Index (RIE)
Medline File
Child Development, Assessment and Intervention: A Bibliography of Research by B. Hanson, L. Blankenhorn and K.G. Scott, ERIC, May, 1976.
Malnutrition, Cognitive Development and Learning by Susan Thomas, ERIC, August, 1972.

Because of the wide scope of this subject, literature on certain topics was stressed, some topics were avoided and some were only sampled. This bibliography is by no means a complete listing of articles, reports and books on nutritional disorders related to child development. The main topic covered pertains to malnutrition and undernutrition as it relates to mental/intellectual/cognitive development of children from the fetal stage through the early childhood years. Articles included are related to world health problems as well as nutrition problems in the U.S. with an emphasis on minority/poverty groups including the American Indian, Mexican-American and Negro. Primarily human studies are included although animal studies and articles which discuss the relationship and implication of these two approaches to research are also listed.

Protein-calorie malnutrition resulting in severe and frequently irreversible learning deficits account for many of the articles on types of disorders. The frequent reference to kwashiorkor and marasmus appears to reflect the interest of researcher in studying an inadvertently provided human population which can be clinically measured. This research is also complicated by lack of controls, uncontrollable environmental factors and other research methodology problems which make it difficult to arrive at conclusions. Some enlightened ecological studies and important retrospective studies are also cited. Other areas such as problems associated with vitamin and mineral deficiencies, endocrine and metabolic disturbances, the relationship of carcinoma to nutrition, the associated problems of infection and immunological inactivity and the newly explored area of food additives are also included in the bibliography. A number of articles on low birthweight are provided because of the relevance to maternal and fetal nutrition/malnutrition and sequela.

Many articles discuss the positive correlation between socio-economic status and nutritional problems. Other articles are included for the purpose of putting this relationship into proper perspective. In some instances articles which appeared to have only a remote relationship to a child's mental/cognitive/intellectual development were cited for nutrition is characterized by a complicated interaction of factors and/or chain of events. Many single factors are eventually related to learning (e.g., effects on memory, attention, mother-child interaction, general intellectual functioning, motor coordination, etc.)

No information is included regarding nutritional disorders which result in dental problems, nutrition training for physicians, elementary school nutrition education programs nor basic information on nutrition. Only minimal

citations are included on community intervention programs and those which are included either support the major topic of the relationship of nutrition to learning or present approaches which either take into account or deny the culture of the target population.

In that this bibliography was intended to be useful to professionals interested in early childhood education and because such professionals may have a limited background in biochemistry, physiology and other scientific areas necessary for an in-depth understanding of disorders of nutrition and the role nutrition plays in child development, articles were selected on the criteria of "understandability" to those outside the field of nutrition. More technical research articles were excluded. It would, however, be in the best interest of someone using these references who had a limited background in nutrition to read a basic text on nutriton such as Margaret McWilliams' Nutrition for the Growing Years (John Wiley and Sons, New York, 1975 edition.) In addition, there are several excellent resources published in the late 1960's which would enhance one's understanding of the relationship of nutrition to learning. For example:

> Blix, Gunnar (Ed.) Nutrition in preschool and school age. (Symposia of the Swedish Nutrition Foundation VI) Uppla, Sweden: Almqvist and Wiksells, 1969.
>
> Sunderlin, S. and Wills, B. (Eds.) Nutrition and intellectual growth in children. Washington, D.C.: Association for Childhood Education International, 1969. (ED 028 570)

To further facilitate understanding of some of the more specific research articles it would also be helpful to first read information which provides a global view of the methodological and theoretical problems involved in studies of nutritional disorders. For example, Cravioto's "Approaches to Studies of Malnutrition," Thomas' two ERIC publications, Kallen's Nutrition, Development and Social Behavior (cited in bibliography) or the

several review articles listed are good starting points for exploring the subject.

The relationship of nutrition to physical, mental and social development of children whether viewed negatively (malnutriton, undernutrition or specific disorders of nutrition) or positively (dietary needs for maximum development and health maintenance and achievement of learning potential) has far-reaching ramifications and implications in education. Professionals involved in early childhood education must be aware of information in the area of nutrition in order to:

1) Provide information to children and families as one form of intervention
2) Incorporate appropriate nutritional activities into the school curriculum
3) Develop their own nutritional habits which will maximize their functioning as an adult professional.

All professionals involved in educating young children should be nutritionally informed and involved whether they are working with children who are classified "normal" or "abnormal," who are from varying or dual cultures and/or linguistic backgrounds, who are labeled according to behaviors which insinuate causality but which ignore possible nutritional correlations, who are viewed as having a primary handicap without consideration of other contributing nutritional factors or who are assumed because of race and/or SES to have adequate environments which would suggest fullfillment of their nutritional needs. Nutrition is an important consideration in developing countries, developing classrooms and developing children.

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